

IN THE CLAIMS:

The following is a listing of the claims as currently pending in this application.

1 1. (Original) In a computer system having one or more processors and one or
2 more peripheral devices connected to an Input/Output (I/O) bus, an I/O bridge coupled to
3 the I/O bus and configured to interface between the one or more processors and the one
4 or more peripheral devices, the I/O bridge comprising:

5 a queue for buffering information received from the one or more processors; and
6 a transaction engine operably coupled to the queue, the transaction engine config-
7 ured to place information buffered at the queue onto the I/O bus for receipt by a targeted
8 peripheral device,

9 wherein the transaction engine:

10 generates an attribute message that includes a tag field and a requester
11 function number field,

12 loads the tag field with a selected value,

13 loads the requester function number field with a selected one of a plurality
14 of values, and

15 places the attribute message including the selected tag and requester func-
16 tion number values onto the I/O bus for receipt by the targeted I/O device.

1 2. (Original) The I/O bridge of claim 1 wherein the transaction engine logi-
2 cally concatenates the tag field and the requester function number field of the attribute
3 message to create a super tag value for use in tracking transactions placed on the I/O bus.

1 3. (Original) The I/O bridge of claim 2 wherein the super tag ranges from binary
2 “00000000” to binary “11111111”.

1 4. (Original) The I/O bridge of claim 1 wherein the queue has a plurality of entries
2 for buffering the information and each queue entry is associated with a corresponding tag
3 value and a corresponding requester function number value.

1 5. (Original) The I/O bridge of claim 4 wherein, in response to a Split Completion
2 Message containing a tag value and a requester function number value, the transaction
3 engine uses the received tag and requester function number values to identify a corre-
4 sponding queue entry and clears the identified entry.

1 6. (Original) The I/O bridge of claim 5 wherein the I/O bus operates in substantial
2 compliance with the Peripheral Component Interface Extended (PCI-X) specification
3 standard.

1 7. (Original) The I/O bridge of claim 4 wherein the transaction engine is further
2 configured to place information received from a peripheral device along with a Split
3 Completion transaction that specifies a tag value and a requester function number value
4 into the queue entry associated with the specified tag and request function number values.

1 8. (Original) The I/O bridge of claim 7 wherein the information buffered at the
2 queue comprises at least one of command, address and data, and the command may be
3 read or write.

1 9. (Original) The I/O bridge of claim 1 wherein the queue includes a read buffer
2 for buffering data that was received from a peripheral device and a write buffer for buff-
3 ering information that is to be provided to a targeted peripheral device.

1 10. (Original) The I/O bridge of claim 1 wherein the I/O bus operates in substan-
2 tial compliance with the Peripheral Component Interface Extended (PCI-X) specification
3 standard.

1 11. (Original) A method for use in a computer system having one or more processors, one or more memory subsystems, and one or more peripheral devices connected to an Input/Output (I/O) bus, the method comprising the steps of:

4 providing at least one queue having a plurality of entries for buffering information received from or to be sent to a targeted peripheral device;

6 associating each queue entry with a selected tag value and with one of a plurality of selected requester function number values;

8 buffering information received from a processor or a memory subsystem in a selected queue entry;

10 generating an attribute message that includes a tag field and a requester function number field;

12 loading the tag field of the attribute message with the tag value associated with the selected queue entry;

14 loading the requester function number field of the attribute message with the requester function number value associated with the selected queue entry; and

16 placing the attribute message including the tag and requester function number values onto the I/O bus for receipt by the targeted I/O device.

1 12. (Original) The method of claim 11 further comprising the steps of:

2 receiving a Split Completion transaction from a targeted peripheral device specifying a tag value and a requester function number value and including data;

4 utilizing the received tag and requester function number values as an index to identify a corresponding queue entry; and

6 buffering the data received from the targeted peripheral device at the identified queue entry.

1 13. (Original) The method of claim 11 further comprising the step of logically concatenating the tag field and the requester function number field of the attribute message to create a super tag value for use in tracking transactions placed on the I/O bus, wherein the super tag ranges from binary “00000000” to binary “11111111”.

1 14. (Original) The method of claim 13 wherein the I/O bus operates in substantial
2 compliance with the Peripheral Component Interface Extended (PCI-X) specification
3 standard.

15. (Original) The method of claim 14 wherein the information buffered at the queue comprises at least one of command, address and data, and the command may be read or write.